REMARKS

Claims 1-36 are currently pending in the current application. In an office action dated April 21, 2004 ("Office Action"), the Examiner provisionally rejected claims 1-36 for obviousness-type double patenting, rejected claims 1-36 under 35 U.S.C. § 103(a) as being unpatentable over Utter et al., U.S. patent No. 5,815,649 ("Utter") in view of Byers et al., U.S. Patent No. 5,809,543 ("Byers"). Applicants' representative will consider filing a terminal disclaimer at the point that the Examiner's obviousness-type double patenting rejection becomes non-provisional. Applicants' representative respectfully traverses the Examiner's 35 U.S.C. § 103(a) rejections.

In a previous response, Applicants' representative pointed out that Applicants' system uses a fault-tolerant-storage system ("FTSS") system to store and forward network communications packets between two nodes, or host computers. This aspect of Applicants' invention is clearly claimed, for example, in claim 1, provided below for the Examiner's convenience:

> 1. A method of transmitting a network packet from a source node to a destination node, wherein the source and destination nodes are coupled to a fault tolerant storage system (FTSS) via an FTSS interconnection fabric, the method comprising:
>
> **transmitting the packet from the source node to the FTSS** via the FTSS interconnection fabric;
>
> **storing the packet in highly reliable fault-tolerant storage media of the FTSS**; and
>
> **transmitting the packet from the FTSS to the destination node** via the FTSS interconnection fabric. (emphasis added)

First, please note that, in claim 1, a source node transfer a network packet to a destination node through a fault tolerant storage system ("FTSS") that stores the message after receiving it from the source node, prior to transmitting it to the destination node. Thus – three separate network nodes are involved in the method claimed in claim 1. Second, please note that a network packet is stored by the FTSS. Network packets are the messages transferred over a communications network. They may contain data – but are not simply data. Network packets are formatted, and contain network addresses specifying the sending and receiving network nodes.

In section 27 of the Office Action, the Examiner has responded to

Applicants' previous arguments with respect to Utter. The Examiner's response indicates to Applicants' representative that mutual understanding of the Utter reference has not been reached, and that perhaps Applicants' representative has not sufficiently clearly laid out the differences between Utter and Applicants' claimed invention.

As the Examiner correctly points out, Utter does indeed disclose a fault-tolerant computer system in which user terminals intercommunicate through a network. In fact, networked communication in which users interact with various terminals interconnected with one another and with one or more large computer systems is well known. Such systems have been commercially available for at least 30 years. However, the Examiner makes an unjustified, in Applicants' representative's opinion, leap in concluding that, because users on the interconnected terminals can intercommunicate with one another, the information transferred between two user terminals is intercepted by the fault-tolerant computer system and stored in fault-tolerant storage media, as suggested by the Examiner in section 27 of the Office Action.

The Examiner quotes lines 55-62 of column 4 of Utter in support of the unjustified conclusion that the network shown in Utter transfers data from one user terminal to another using a fault-tolerant-computer-system-based store-and-forward technique. The entire paragraph is provided, below:

> In addition to transferring requests from the user terminal 12(d) to the fault-tolerant computer system 11, the networks 13(n) may also download data from the fault-tolerant computer system 11 to the user terminals 12(d) for local processing by the user terminals 12(d) or for display to a user on a display terminal which may be provided with respective ones of the user terminal 12(d). In addition, **the networks** 13(n) may transfer data from the user terminals 12(d) to the fault-tolerant computer system 11 for processing or storage, and in addition **may transfer data among the user terminals** 12(d). In one embodiment, the networks 13(A) and 13(B) are each in the form of **conventional high-speed (11 Mb/second) Ethernet networks**, which transfer information in the form of messages. **As is conventional in Ethernet networks, messages generated by one device connected to a network 13(A), 13(B) (that is, by a user terminal 12(d) or by the fault-tolerant computer system 11) contain information to be transferred, as well as an address which identifies the intended recipient or recipients of the information.** (emphasis added)

It is manifestly clear that a conventional network, such as an Ethernet network, is being discussed in this paragraph. Utter clearly and correctly discusses the fact that the

conventional network can be used for request/response interactions between a user interacting with the fault-tolerant computer system. This is absolutely well known, and has been for at least 25 years. Utter correctly observes that the conventional network may also transfer data among the user terminals. This is also well known. *Utter even explains that all of such network transactions are based on the fact that one computer, whether a terminal or the fault-tolerant computer system, can address a message to any other computer on the network.* This is how networks operate. If a source terminal wishes to send a message to a destination terminal on a network, the source terminal composes the message and transmits the message to the intended-recipient destination terminal by appropriately addressing the message. Terminals and computers on the network other than the destination terminal do not receive the message, unless specially configured to do so for network analyzer applications. Utter does not teach or suggest that Utter's fault-tolerant computer system is used as a network analyzer. Terminals and computer systems receive only those messages that are addressed to them. Filtering of messages occurs in Ethernet controllers. The Ethernet is extremely well known, and described, in detail, in numerous textbooks and websites.

The Examiner appears to state that Utter teaches or suggests, in order to implement user-terminal-to-user-terminal communications, that Utter's fault-tolerant computer system abandons Ethernet convention, and well-known principles of computer networking, and rather than simply allowing the user terminals to directly transmit messages to one other, Utter's fault-tolerant computer system instead forces user terminals to transmit messages to a storage controller (31(a) or 31(s)) within the fault-tolerant computer system, which stores the message, later retrieves the message, and then forwards the retrieved message to the recipient user terminal. The Examiner's proposed system would slow messaging in Utter's system by several orders of magnitude, overburden the Ethernet controllers associated with storage nodes, and make the fault-tolerant computer system an unnecessary bottleneck for messaging. There is no suggestion whatsoever in Utter that Utter contemplated such a system, and no teaching, mention, or suggestion that user-terminal-to-user-terminal communication involves anything other than a simple transmission of messages from one user directly to another user via the Ethernet. Instead, Utter teaches a **conventional Ethernet network**, as

explicitly stated by Utter, in which a user terminal can directly transmit a message to another user terminal without intervention by the fault-tolerant computer system. Indeed, in the above paragraph, Utter indicates that the network may transfer data among the user terminals as well as transfer data from user terminals to the fault-tolerant computer system.

There is also no indication in Utter that network packets are stored in fault-tolerant storage for any reason. Instead, as explicitly stated by Utter beginning on line 57 of column 4:

> Similarly, the storage nodes 30(s) perform the data processing services for the user terminals 12(d) as described above in connection with the fault-tolerant computer system 11, *and the networks 13(n), switches 18(h) and networks 20(k) serve to transfer storage and retrieval requests from the user terminals 12(d) and processing nodes 16(m) to the storage nodes 30(s) which are to execute the request and return any data and status information that is to be returned from the storage nodes 30(s) executing the request.* (emphasis added)

Thus, Utter makes it clear that network activity is devoted to transferring data storage and retrieval requests from a processing node to a storage node and from the storage node to the processing node. Not once does Utter mention or suggest a processing node sending a network message to a storage node, which stores the network message, and then forwards that network message to another processing node.

Applicants' representative confesses to not understanding the Examiner's position with regard to Utter. Utter teaches a conventional network, such as an Ethernet network, in which a user may transmit a message directly to any other node on the network, whether a user terminal or a fault-tolerant computer system. However, Applicants' clearly claimed invention involves a source computer transmitting a message to a destination computer by: (1) transmitting a network packet to an FTSS; (2) storing the network packet in a fault-tolerant storage medium by the FTSS; (3) subsequent retrieval of the stored network packet by the FTSS; and (4) forwarding the retrieved network packet from the FTSS to the destination computer. This is not a conventional networking approach. In a conventional network, such as that described by Utter, the source computer directly transmits the network packet to the destination computer. Conventional network operation is highly desirable from fault-tolerance and computational efficiency standpoints. An Ethernet is bus exactly in order to avoid

making any particular node a single point of failure and a bottleneck for communications. That is precisely why the Ethernet was developed. The Examiner, by contrast, seems to suggest Utter employs a much older, star-topology, store-and-forward network, in which a central computer stores and forwards all messages transmitted between points of the star. *But, even in the old star-topology systems, fault-tolerant storage would not have been used by the central computer, because fault-tolerant storage generally requires that multiple copies of data be stored, which, in a networking system, would generally be considered to be unnecessary and extremely inefficient.* Almost all modern communications systems, even ring-based systems, avoid store-and-forward messaging, because they are considered to be, in general, slow, computationally inefficient, and extremely brittle from a reliability standpoint. Nowhere in Utter does Utter suggest a store-and-forward communications system. Instead, Utter discloses a conventional networking system in which a source node transmits a message directly to a destination node.

Byers discloses an "outboard file cache extended processing complex for use with a host data processing system for providing closely coupled file caching capability" (Abstract). The cited passages of Byers describe various hardware components of the internal buses and links within Byers file cache and between the file cache and host computers, but neither disclose nor suggest a first host computer sending a network protocol message to a second host computer through the outboard file cache. Indeed, all the host computers clearly directly interconnected via communications links, as clearly shown in the Figure shown on the first page of Byers. Byers is simply unrelated to Applicants' claimed invention.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,
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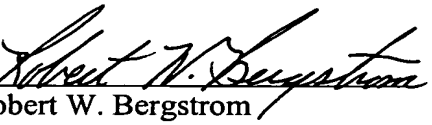

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